

Invest \$2000 at 8.5% APR compounded monthly

$$Y = 2000 \left(1 + \frac{0.085}{12} \right)^{12 \cdot X \leftarrow \text{years}}$$

$$Y = 2000 \left(1 + \frac{0.085}{4} \right)^{4 \cdot X}$$

Invest \$1.⁰⁰ at 100% APR for 1 year, compounded

(a) yearly = 2.⁰⁰

(b) quarterly = 2.441456

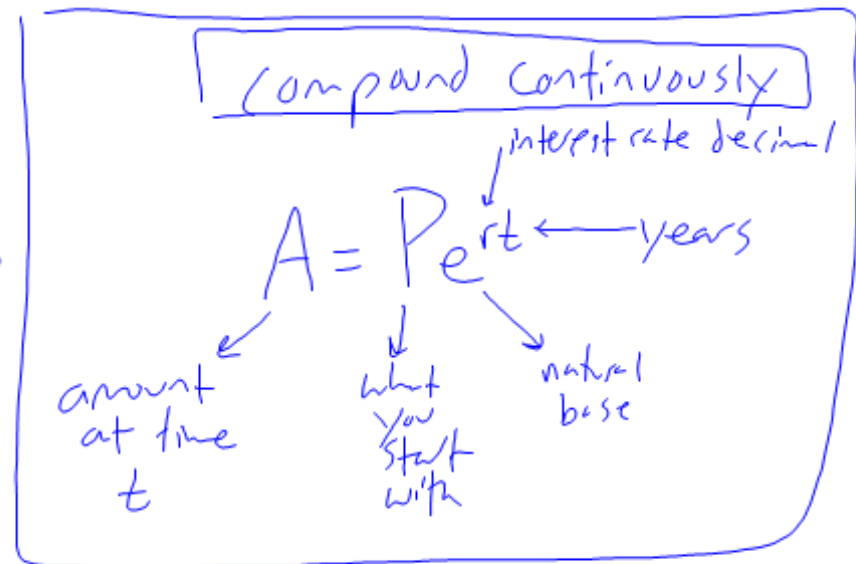
(c) monthly = 2.613

(d) weekly = 2.693

(e) daily = 2.71456

(f) every hour = 2.718

(g) every second = 2.7182



2.718281828....

e - natural base

Inverse functions

Equations

Switch x and y and
solve for y

$$\Rightarrow x + 3 = y$$

$$y + 3 = x$$

$$\quad -3 \quad -3$$

$$y = x - 3$$

table

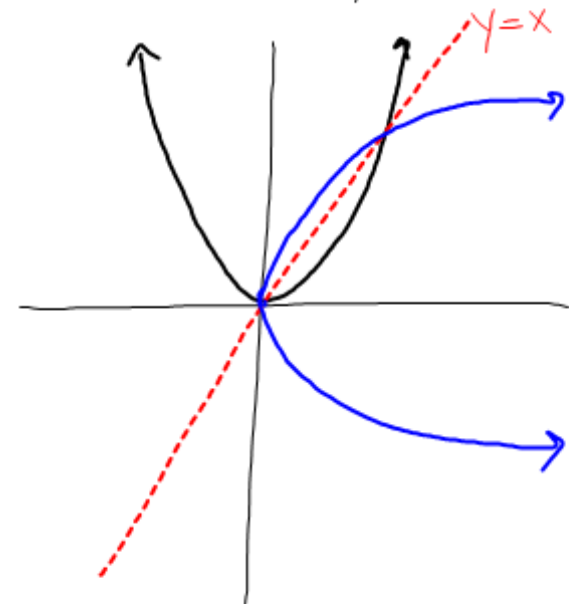
Switch x and y

| x | y |
|-----|-----|
| 1 | 5 |
| 2 | 7 |
| 3 | 9 |
| 4 | 11 |

| x | y |
|-----|-----|
| 5 | 1 |
| 7 | 2 |
| 9 | 3 |
| 11 | 4 |

graph

reflect over the
 $x = y$ line



Find the inverse

①

② $y = 3x + 2$

$$\begin{array}{rcl} x & = & 3y + 2 \\ -2 & & -2 \end{array}$$

$$\frac{x-2}{3} = \frac{3y}{3}$$

$$\boxed{\frac{x-2}{3} = y}$$

②

| x | y |
|---|----|
| 2 | 3 |
| 4 | 7 |
| 8 | 5 |
| 9 | -2 |

| x | y |
|----|---|
| 3 | 2 |
| 7 | 4 |
| 5 | 8 |
| -2 | 9 |

⑥

$$y = 2x^3 - 2$$

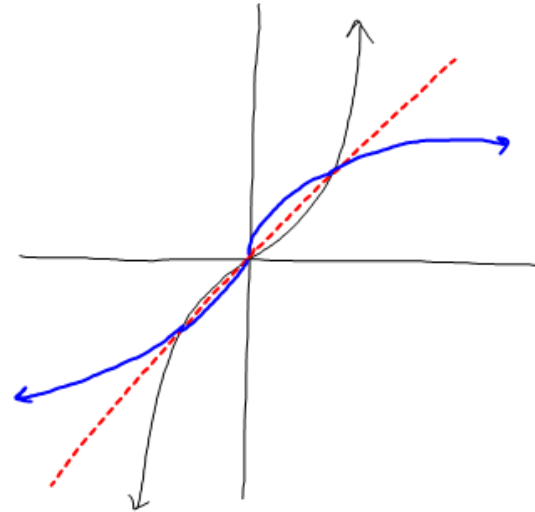
$$\begin{array}{rcl} x & = & 2y^3 - 2 \\ +2 & & +2 \end{array}$$

$$\frac{x+2}{2} = \frac{2y^3}{2}$$

$$\frac{x+2}{2} = y^3$$

$$\boxed{\sqrt[3]{\frac{x+2}{2}} = y}$$

③



Classwork

Sect. 7.7 #1-4, 5-13(3), 23-27(odd), 35-43(odd)
(2)

Inverse function denoted $f^{-1}(x)$

Homework

Exponential Modeling